Permit Writer	Jonathan Carney
Email Address	Jonathan.W.Carney@wv.gov
Company Name	Antero Resources, LLC – Pennington Station
Company ID	017-00056
Facility Name	Pennington Compressor Station
Permit Number	R13-3080A
County	Doddridge
Newspaper	The Doddridge Independent
Company Contact & Email	Ward McNeilly wmcneilly@anteroresources.com
Environmental Contact Email Address	bschatz@anteroresources.com msteyskal@kleinfelder.com
Regional Office (if applicable)	NPRO
New or Modified Source?	Modified
Construction, Modification, or Relocation?	Modification
Type of Facility	natural gas production facility
"Located" or "To Be Located"?	Located
Place where I can find electronic versions of your notice, engineering evaluation, and draft permit	Q:\AIR_QUALITY\J_Carney\017-00056 Antero Midstream LLC - Pennington

to publish

publish fri Mar 3 2017
30 days Mon Apr 3 2017

emails prepped

INTERNAL PERMITTING DOCUMENT TRACKING MANIFEST

Company Name Antero Resources, LLC - Pennington Station

Permitting Action Number R13-3080A Total Days_____ DAQ Days_____

Permitting Action:

- ○ Permit Determination
- ○ General Permit
- ○ Administrative Update
- ○ Temporary
- ○ Relocation
- ○ Construction
- ⊗ Modification
- ○ PSD (Rule 14)
- ○ NNSR (Rule 19)

Documents Attached:

- ☑ Engineering Evaluation/Memo
- ☑ Draft Permit
- ☑ Notice
- ○ Denial
- ○ Final Permit/General Permit Registration
- ○ Completed Database Sheet
- ○ Withdrawal
- ○ Letter
- ○ Other *(specify)*_____

Date	From	To	Action Requested
2/6/2017	Jonathan Carney	Bev McKeone	Review for Public Notice
2/24	Bev	Jonathan	See Comments - Addum - Cig to Notice
2/27/2017	Jonathan Carney	Sondie Adkins	Send to Public Notice

NOTE: Retain a copy of this manifest for your records when transmitting your document(s).

AIR QUALITY PERMIT NOTICE

Notice of Intent to Approve

On, November 9, 2016 Antero Midstream, LLC applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to modifiy a compressor station facility located in Doddridge County, WV at 39.289026 latitude and -80.675875 longitude. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as Permit R13-3080A.

The following changes in potential emissions will be authorized by this permit action: Carbon Monoxide, 1.09 TPY increase; Nitrogen Oxides, 9.24 TPY increase; Particulate Matter less than 10 microns, 0.53 tons per year (TPY) increase; Sulfur Dioxide, 0.04 TPY increase; Volatile Organic Compounds, 5.39 TPY decrease; Total Hazardous Air Pollutants, 0.94 TPY increase.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on TBD by Sandra. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed modification will meet all state and federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Jonathan Carney
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Telephone: 304/926-0499, ext. 1203
FAX: 304/926-0478

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx

west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475
Fax: (304) 926-0479

Jim Justice, Governor
Austin Caperton, Cabinet Secretary
www.dep.wv.gov

BACKGROUND INFORMATION

Application No.:	R13-3080A
Plant ID No.:	017-00056
Applicant:	Antero Midstream LLC
Facility Name:	Pennington Compressor Station
Location:	Near Smithburg, Doddridge County
NAICS Code:	221210
Application Type:	Modification
Received Date:	November 9, 2016
Engineer Assigned:	Jonathan Carney
Fee Amount:	$4,500
Date Fee Received:	November 14, 2016
Complete Date:	December 8, 2016
Due Date:	March 14, 2016
Applicant Ad Date:	November 11, 2016
Newspaper:	The Doddridge Independent
UTM's:	Easting: 527.952 Northing: 4348.901 Zone: 17
Description:	Application to update reduction efficiencies for the engine catalyst based on new catalyst information and compressor specifications modified. The dehydrator throughput has been increased to 70 MMscfd. A fuel conditioning heater will be added. Other emission sources at the facility have been updated using more recent data such as the storage tanks and compressor engines. A primary and backup VRU have been added as a control devices on the storage tanks rather than the flare. The flare will continue to be used to control emissions from the dehydrator still vent.

DESCRIPTION OF PROCESS

The following process description is from the application for modification permit R13-3080A:

The existing Pennington Compressor Station is located in Doddridge County, West Virginia approximately 5.4 miles east of West Union, WV. Gas from surrounding wells enters the facility and is immediately metered before reaching the inlet separator. Any

produced liquids from the inlet separator are sent to two (2) 400 barrel storage tanks (TK-1 and TK-2). Gas from the inlet separator is sent to three (3) 1680 hp Waukesha compressor engines (COMP-1 – COMP-3). The three (3) compressor engines are controlled with non-selective catalytic reduction (NSCR) catalysts (1C-3C). Fuel gas for the compressor engines will be treated prior to the engines by a fuel conditioning skid with a 0.5 MMBtu/hr heater (FUEL1) to allow more complete combustion. From there, the compressed gas is routed to a coalescing filter separator, where the gas is further separated from fluids. Produced fluids are sent to the storage tanks (TK-1 and TK-2) and gas is sent to the dehydration system (DEHY1 and DFLSH1) where excess fluids are extracted from the gas stream. Fluids from the dehydration system are routed to the storage tanks (TK-1 and TK-2), and the dry gas is sent to the sales pipeline.

The TEG dehydrator system contains a flash gas tank (DFLSH1) and 0.75 MMBtu/hr reboiler (DREB1). The dehydrator has a design rate of 70 MMscf/day. Within the dehydrator unit, vent gas from the flash gas tank (DFLSH1) is routed to the reboiler (DREB1) and used as fuel. In the case where the flash tank gas cannot be used by the reboiler due to excess gas or the reboiler is offline, the gas will be sent to the VRUs (VRU-100 and VRU-200) via the storage tanks (TK-1 and TK-2) and thus controlled by 98%. Emissions from each reboiler are routed to the atmosphere. The dehydrator still vent (DEHY1) is controlled by a flare with at least 98% control efficiency (FLARE1).

As stated, all produced fluids from process operation enter two (2) 400 barrel storage tanks (TK-1 and TK-2). Fluids include either condensate or produced water, with the majority of the fluids expected to be condensate. Flashing occurs at the storage tanks as the produced fluids will be pressurized prior to entering the storage tanks. Vent gas from the storage tanks are directed to the main vapor recovery unit (VRU-100) where tank vapors are collected and recycled back into the gas system righ before the initial filter scrubber. A second vapor recovery unit (VRU-200) is also connected to the tanks as a backup unit. The produced fluids are trucked out via tanker trucks as needed (LDOUT1). The anticipated production is approximately 212 barrels per day.

Two (2) primary natural gas fired microturbine generators (GEN1-GEN2) supply power to the facility. Fugitive emissions from component leaks and emissions from venting or blowdown events also occur.

Compressor Engines

The permittee is increasing the horsepower rating of the compressor engines (COMP1 – COMP3) based on using site specific gas analysis which increases the horsepower rating. The permittee is seeking to update the compressor engine emissions to reflect catalyst data based on a new catalyst.

Storage Tanks

The permittee is seeking to update the storage tank emissions based on a ProMax 4.0 model.

Fuel Conditioning Heater

The permittee plans to install a 0.5 MMBtu/hr fuel conditioning heater

Haul Road Emissions

The permittee has included haul road emissions with this application.

Flare

The permittee seeks to no longer control emissions from the storage tanks using the flare. The flare will continue to be used to control emissions from the dehydrator still vent.

Vapor Recovery Units (VRU and VRU backup)

The permittee seeks to add a primary VRU and backup VRU to control storage tank emissions rather than using the flare.

Dehydrator

The permittee seeks to increase the throughput of the dehydrator from 30 MMscfd to 70 MMscfd.

Compressor Blowdowns

The permittee has included compressor blowdown emissions with this application.

SITE INSPECTION

The most recent partial inspection of this facility performed on September 22, 2015, found that the facility was in compliance. This inspection was performed following a previous partonsite inspection on September 15, 2015 that found that the facility was out of compliance for leaks around thief hatches of storage tanks. A notice of violation and a consent order was issued for the non-compliance. Both of the aforementioned inspections were performed by inspector Douglas Hammel of DEP

Directions: [Latitude: 39.28903, Longitude: -80.67588] Traveling east from Smithburg, WV on US 50, go approximately 3.3 miles and turn left onto Antioch Road. Proceed on Antioch Road (County Route 50/24) for 0.1 miles and take the first left onto Sullivan Drive. An access road will be the first left heading up to the top of the hill.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Existing facility wide emissions are as follows (based on Engineering Evaluation R13-3080):

CO	NO_x	$PM_{10}/PM_{2.5}$	SO_2	VOCs	HAPs
tpy	tpy	tpy	tpy	tpy	tpy
18.57	8.37	3.84	0.09	51.32	4.65

The new facility wide emission estimates presented by the applicant are as follows:

CO	NOx	$PM_{10}/PM_{2.5}$	SO2	VOCs	HAPs
tpy	tpy	tpy	tpy	tpy	tpy
19.66	17.61	4.37	0.13	45.93	5.59

Change in facility wide emissions:

CO	NOx	$PM_{10}/PM_{2.5}$	SO2	VOCs	HAPs
tpy	tpy	tpy	tpy	tpy	tpy
1.09	9.24	0.53	0.04	-5.39	0.94

Emissions from the parts of the facility effected by this modification are as follows:

Existing COMP-1 through COMP-3 (1,627 HP each) Compressor engine emissions of each engine:

Existing Pollutant	**Source**	**Hourly (lb/hr)**	**Annual (ton/yr)**
NO_x	Catalyst Mfg. Data	0.54	2.36
CO	Catalyst Mfg. Data	1.08	4.71
$PM_{10}/PM_{2.5}$[1]	AP-42	0.11	0.48
VOCs	AP-42	1.11	4.87
SO_x	AP-42	0.01	0.04
Formaldehyde	Mfg. Data	1.11	4.87
Total HAPs	AP-42/Mfg. Data	0.21	0.94
CO_2e	40 CFR Part 98	1910	8364

(1) Filterable + Condensable.

Existing COMP-1 through COMP-3 (Output rating increased to 1,680 HP each) Compressor engine emissions of each engine:

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	Catalyst Mfr. Data	1.23	5.39
CO	Catalyst Mfr. Data	1.15	5.03
$PM_{10}/PM_{2.5}$[1]	AP-42	0.27	1.17
VOCs[(2)]	AP-42	0.28	1.22
SO_x	AP-42	0.008	0.035
Formaldehyde	Mfg. Data	0.019	0.081
Total HAPs	AP-42/Mfg. Data	0.18	0.80
CO_2e	40 CFR Part 98	1946	8524

(1) Filterable + Condensable.
(2) Includes Formaldehyde

COMP-1 through COMP-3 Compressor engine emission changes of each engine:

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
NO_x	0.69	3.03
CO	0.07	0.32
$PM_{10}/PM_{2.5}$[1]	0.16	0.69
VOC	-0.83	-3.65
SOx	-0.002	-0.005
Formaldehyde	-1.09	-4.79
Total HAPs	-0.03	-0.14
CO_2e	36	160

(1) Filterable + Condensable.

Existing DEHY1 (Throughput 30 MMscfd):

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	GLYCalc	0.53	2.34
Hexane	GLYCalc	0.01	0.06
Benzene	GLYCalc	0.07	0.32
Toluene	GLYCalc	0.14	0.61
Ethyl-benzene	GLYCalc	0.01	0.03
Xylene	GLYCalc	0.06	0.26
Total HAPs		0.31	1.36

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
CH_4	GLYCalc	0.03	0.13
CO_2	GLYCalc	0.16	0.70
CO_2e			3.53

Existing DEHY1 (Throughput increased to 70 MMscfd):

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	GLYCalc	1.00	4.37
Hexane	GLYCalc	0.059	0.26
Benzene	GLYCalc	0.048	0.21
Toluene	GLYCalc	0.27	1.17
Ethyl-benzene	GLYCalc	0.036	0.160
Xylene	GLYCalc	0.033	0.14
Total HAPx		0.40	1.75
CH_4	GLYCalc	0.0089	0.039
CO_2	GLYCalc	0.062	0.27
CO_2e			1.25

DEHY1 Emission Change:

Existing Pollutant	Hourly (lb/hr)	Annual (ton/yr)
VOC	0.47	2.03
Hexane	0.05	0.2
Benzene	-0.02	0.11
Toluene	0.13	0.56
Ethyl-benzene	0.03	0.13
Xylene	-0.03	-0.12
Total HAPs	0.09	0.39
CH_4	-0.02	-0.09
CO_2	0.46	-0.43
CO_2e	0.01	-2.28

Existing DFLSH1 (Throughput 30 MMscfd):

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	GLYCalc	1.03	4.51
Hexane	GLYCalc	0.02	0.09
Benzene	GLYCalc	0.00	0.01
Toluene	GLYCalc	0.00	0.02
Ethyl-benzene	GLYCalc	0.00	0.00
Xylene	GLYCalc	0.00	0.00
Total HAPs		0.03	0.13
CH_4	GLYCalc	2.05	8.98
CO_2	GLYCalc	0.32	1.40
CO_2e			189.99

Existing DFLSH1 (Throughput increased to 70 MMscfd):

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	GLYCalc	0.96	4.19
Hexane	GLYCalc	0.06	0.25
Benzene	GLYCalc	0.00	0.02
Toluene	GLYCalc	0.01	0.05
Ethyl-benzene	GLYCalc	0.00	0.00
Xylene	GLYCalc	0.00	0.00
Total HAPx		0.06	0.25
CH_4	GLYCalc	2.14	9.37
CO_2	GLYCalc	0.84	3.69
CO_2e			238.02

DFLSH1 Emission Change:

Existing Pollutant	Hourly (lb/hr)	Annual (ton/yr)
VOC	-0.07	0.32
Hexane	0.04	0.16
Benzene	0.00	0.01
Toluene	0.01	0.03

Existing DREB1:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.09	0.40
CO	AP-42	0.08	0.34
VOC	AP-42	0.01	0.02
$PM_{10}/PM_{2.5}$	AP-42	0.01	0.03
SOx	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.00
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	0.00	0.00
CO_2e		109.90	481.36

Existing DREB1 (Updated from previous application):

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.07	0.32
CO	AP-42	0.06	0.27
VOC	AP-42	0.00	0.02
$PM_{10}/PM_{2.5}$	AP-42	0.01	0.02
SOx	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.01
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	87.90	385.20
CO_2e		88.00	385.60

DREB1 Changes in emissions:

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
NO_x	-0.02	-0.08
CO	-0.02	-0.07
VOC	0.00	0.00
$PM_{10}/PM_{2.5}$	0.01	0.02
SOx	0.00	0.00
CH_4	0.00	0.01
N_2O	0.00	0.00
CO_2	87.90	385.20
CO_2e	88.00	385.60

New FUEL1 (0.5 MMBtu/hr fuel conditioning heater):

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.049	0.21
CO	AP-42	0.041	0.18
VOC	AP-42	0.00	0.01
$PM_{10}/PM_{2.5}$	AP-42	0.00	0.02
SOx	AP-42	0.00	0.00
Formaldehyde	AP-42	0.00	0.00
HAPs including HCHO	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.00
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	58.63	256.80
CO_2e		58.69	256.80

Existing FLARE1 (Controlling tank (TK-1 and TK-2) emissions and DFLSH1 emissions):

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.14	0.63
CO	AP-42	0.78	3.40
VOC	AP-42	0.01	0.03
$PM_{10}/PM_{2.5}$	AP-42	0.00	0.00
SOx	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.00
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	167.33	732.88
CO_2e		167.33	732.88

Existing FLARE1 (Controlling DFLSH1 emissions):

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.14	0.63
CO	AP-42	0.78	3.41
VOC	AP-42	0.00	0.00
$PM_{10}/PM_{2.5}$	AP-42	0.00	0.00
SOx	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.02
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	248.40	1088.00
CO_2e		248.40	1088.02

FLARE1 Changes in emissions:

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
NO_x	0.00	0.00
CO	0.00	0.01
VOC	-0.01	-0.03
$PM_{10}/PM_{2.5}$	0.00	0.00
SOx	0.00	0.00
CH_4	0.00	0.02
N_2O	0.00	0.00
CO_2	81.07	355.12
CO_2e	81.07	355.12

Truck Loadout (LDOUT1) emissions:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	AP-42	-	11.45

Truck Loadout (LDOUT1) emissions new estimate:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	ProMax	-	8.15

Truck Loadout(LDOUT1) emission change:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	AP-42	-	-3.30

Tank (TK-1 and TK-2) emissions working/breathing:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	TANKS 4.09d	-	11.36

Tank (TK-1 and TK-2) emissions working/breathing new estimate:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	ProMax	-	0.15

Tank (TK-1 and TK-2) emissions change:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	AP-42	-	-11.21

Blowdown emissions:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	Material Balance	-	17.00
Benzene	Material Balance	-	0.02
Toluene	Material Balance	-	0.09
Ethylbenzene	Material Balance	-	0.01
Xylene	Material Balance	-	0.01
n-Hexane	Material Balance	-	0.63

* Blowdown emissions based on the the following:
- 936 Compressor Blowdown events of 2,429 scf vented gas per event
- 936 Compressor Startup events of 1,050 scf vented gas per event
- 2 Plant Shutdown events of 100,000 scf vented gas per event

REGULATORY APPLICABILITY

The proposed modifications to the existing Pennington Station are subject to the following substantive state and federal air quality rules:

45CSR13 *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed modification of the Pennington Station results in an emissions increase in excess of six (6) lbs/hour and ten (10) TPY of a regulated pollutant and, therefore, pursuant to §45-13-2.16, the modification is defined as a modification to a "stationary source" under 45CSR13. Pursuant to §45-13-5.1, "[n]o person shall cause, suffer, allow or permit the construction, modification . . . and operation of any stationary source to be commenced without . . . obtaining a permit to construct." Therefore, Antero Midstream, LLC is required to obtain a permit under 45CSR13 for the modification and operation of the facility.

As required under §45-13-8.3 ("Notice Level A"), Antero Midstream, LLC placed a Class I legal advertisement in a "newspaper of *general circulation* in the area where the source is . . . located." The ad ran on November 11, 2016 in the *The Doddridge Independent* and the affidavit of publication for this legal advertisement was submitted on November 17, 2016. The application fee of $4,500 was received on November 14, 2016.

45CSR30: Requirements for Operating Permits - (NON APPLICABILITY)

45CSR30 provides for the establishment of a comprehensive air quality permitting system consistent with the requirements of Title V of the Clean Air Act. The modified Pennington Compressor Station does not meet the definition of a "major source under §112 of the Clean Air Act" as outlined under §45-30-2.26 and clarified (fugitive policy) under 45CSR30b. The proposed facility-wide PTE of any regulated pollutant does not exceed 100 TPY. Additionally, the facility-wide PTE does not exceed 10 TPY of any individual HAP or 25 TPY of aggregate HAPs.

However, as the emission units affected by this modification are subject to two New Source Performance Standard (NSPS) - 40 CFR 60, Subpart JJJJ and Subpart OOOO - and one Maximum Achievable Control Technology (MACT) rules - 40 CFR 63, Subpart ZZZZ, the facility would, in most cases, be subject to Title V as a "deferred source." However, pursuant to §60.4230(c), §60.5370(c), and §63.6585(d) as a non-major "area source," Antero Midstream, LLC is not required to obtain a Title V permit for the proposed facility modification. Therefore, the Pennington Station is not subject to 45CSR30.

40 CFR 60 Subparts OOOO – (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after August 23, 2011, and on or before September 18, 2015)

On April 27, 2012, the USEPA issued a final rule (Federal Register Date: August 16, 2012) that consists of federal air standards for natural gas wells that are hydraulically fractured, along with requirements for several other sources of pollution in the oil and gas industry that currently are not regulated at the federal level. EPA published amendments to the Subpart on September 23, 2013 and June 3, 2016.

Each potentially applicable section of Subpart OOOO is discussed below.

Compressor Engines

Antero Midstream LLC is proposing to increase the horsepower rating of the existing compressor engines under this modification. The standards addressed in the previous permit will be carried over into the modification permit and include increased pollutant limits as a result of the increased horsepower ratings.

Pneumatic Controllers

Antero Midstream LLC is not proposing to install any pneumatic controllers under this modification. The facility has existing pneumatic controllers but none have a bleed rate that exceeds the 6 standard cubic feet per hour exemption rate of Subpart OOOO.

Storage Tanks

Pursuant to §60.5365(e), for "[e]ach storage vessel affected facility, which is a single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment" that is constructed after August 23, 2011 and, pursuant to §60.5395 has "VOC emissions equal to or greater than 6 tpy" must meet the control requirements under §60.5395 as of October 15, 2013. The substantive requirement is to "reduce VOC emissions by 95.0 percent or greater."

Antero Midstream LLC is proposing to install a vapor recovery unit and a back-up vapor recovery unit to control emissions from the existing storage tanks. The control efficiency remains 98%. The emissions from each tank will still not exceed 6 tpy.

40 CFR 60 Subpart OOOOa – (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after September 18, 2015)

Fugitive Emissions Components

Antero Midstream, LLC is proposing to increase the horsepower rating of the Pennington Station compressor engines, increase the throughput the dehydration unit form 30 MMscfd to 70 MMscfd. The proposed project is not a modification under 40 CFR 60.5365a(j). Subpart OOOOa does not apply.

40 CFR 60 Subpart JJJJ - (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines)

The three Waukesha 7044 GSI compressor engines are new SI ICE that commenced construction after June 12, 2006. Subpart JJJJ is applicable to the compressor engines. The compressor engines are required by the permit to comply with all applicable requirements in Subpart JJJJ including those not specified in the permit. The permit specifically requires that the compressor engines comply with Table 1 as well as monitoring, compliance demonstration, and recordkeeping requirements of this subpart.

40 CFR 63 Subpart ZZZZ – (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This Subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. This section reflects EPA's final amendments to 40 CFR part 63, Subpart ZZZZ that were issued on January 15, 2013 and published in the Federal Register on January 30, 2013.

According to 40 CFR 63.6590(c),

> *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.
>
> (c)(1) A new or reconstructed stationary RICE located at an area source.

The compressor engines subject to change by this modification were constructed after June 12, 2006 are new reciprocating internal combustion engines (RICE(s)), as defined in 40 CFR 63.6590(a)(2)(iii), and are located at an area source. These engines must meet the requirements of 40 CFR part 60 subpart JJJJ. No further requirements apply for such engines under this 40 CFR 63 Subpart ZZZZ.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

There will be small amounts of various non-criteria regulated pollutants emitted from the combustion of natural gas. However, due to the concentrations emitted, detailed toxicological information is not included in this evaluation.

AIR QUALITY IMPACT ANALYSIS

Since this is a modification to an existing non-major source (as defined in 45CSR14) no modeling was performed.

MONITORING OF OPERATIONS

No monitoring above that which is already required in R13-3080 is deemed necessary.

CHANGES FROM PERMIT R13-3080 to Permit R13-3080A

The entire format of the permit was changed/updated to a format similar to the GP-35D permit.

The table in Section 1.0 was updated to reflect the increased horsepower of the compressor engines (COMP1 through COMP3), the increased design capacity of the dehydration units (DEHY1 and DFLSH1), the addition of the fuel conditioner (FUEL1) and the vapor recovery units (VRU-100 and VRU-200).

Emission limits were changed for COMP1 through COMP3 as a result of the increased horsepower rating.

Emissions limits for the dehydration units (DEHY1 and DFLSH1) were changed to account for the increased wet gas throughput.

A section was added to address scheduled venting operations that include compressor blowdown emissions, compressor startups, and plant shutdowns.

A section was added to address emissions from the Fuel Conditioner (FUEL1) unit.

Emissions resulting from the above changes and emissions from venting operations have been included in the facility wide emission estimates.

RECOMMENDATION TO DIRECTOR

Information supplied in the application indicates that compliance with all applicable regulations will be achieved. Therefore it is the recommendation of the writer that permit R13-3080A for the modification of the Pennington Station near, West Union, Doddridge County, be granted to Antero Midstream, LLC.

Jonathan Carney
Permit Writer

2/27/2017
DATE

West Virginia Department of Environmental Protection

Jim Justice
Governor

Division of Air Quality

Austin Caperton
Cabinet Secretary

Permit to Modify

R13- 3080A

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

Antero Midstream, LLC
Pennington Compressor Station
017-00056

William F. Durham
Director

Issued: DRAFT • Effective: DRAFT

This permit supercedes and replaces Permit R13-3080.

Facility Location:	Smithburg, Doddridge County, West Virginia
Mailing Address:	1615 Wynkoop Street
Facility Description:	Natural Gas Compressor Station
NAICS Codes:	221210
UTM Coordinates:	527.952 km Easting • 4348.901 km Northing • Zone 17
Permit Type:	Modification
Description of Change:	Update reduction efficiencies for the engine catalyst based on new catalyst information and compressor specifications modified. The dehydrator throughput has been increased to 70 MMscfd. A fuel conditioning heater will be added. Other emission sources at the facility have been updated using more recent data such as the storage tanks and compressor engines. A primary and backup VRU have been added as a control device on the storage tanks rather than the flare.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

The source is not subject to 45CSR30.

Table of Contents

1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed/ Modified	Design Capacity	Control Device
COMP-1	1E	GE Waukesha, 7044 GSI 4-Stroke Rich Burn (4SRB) Compressor Engine	2016	1680 hp	NSCR (1C)
COMP-2	2E	GE Waukesha, 7044 GSI 4-Stroke Rich Burn (4SRB) Compressor Engine	2016	1680 hp	NSCR (2C)
COMP-3	1E	Compressor Engine #3 GE Waukesha, 7044 GSI 4-Stroke Rich Burn (4SRB) Compressor Engine	2016	1680 hp	NSCR (3C)
GEN1	4E	Capstone C65 NG Standard Natural Gas Micorturbine	2013	65kWe	None
GEN2	11E	Capstone C65 NG Standard Natural Gas Micorturbine	2013	65kWe	None
DEHY1	5E	Dehydrator Still Vent	2016	70MMscfd	Flare (4C)
DFLSH1	6E	Dehydrator Flash Tank	2016	70 MMscfd	98% control
DREB1	7E	Dehydrator Reboiler	2013	0.75 MMBtu/hr	None
TK-1	8E	Produced Fluids Storage Tank	2016	400 Barrel	VRUs (5C and 6C)
TK-2	9E	Produced Fluids Storage Tank	2016	400 Barrel	VRUs (5C & 6C)
LDOUT1	10E	Product Loadout Rack	2016	212 bbl/day	None
FLARE1	4C	Flare Combustion Device	2013	2.1 MMBtu/hr	None
FUEL1	12E	Fuel Conditioning Heater	2016	0.5 MMBtu/hr	None
VRU-100	5C	Vapor Recovery Unit 1	2017		None
VRU-200	6C	Vapor Recovery Unit 2	2017		None

1.1. Control Devices

Emission Unit	Pollutant	Control Device	Control Efficiency
1,680 hp Waukesha 7044 4SRB RICE (COMP-1 through COMP-3)	Nitrogen Oxides	Non-Selective Catalytic Reduction	97.5 %
	Carbon Monoxide		97.5 %
	Volatile Organic Compounds		84.0 %
	Formaldehyde		90.0 %
	Methane		70.0 %
70 MMscfd TEG Dehydrator Still (DEHY1)	Volatile Organic Compounds	Flare	98.0 %
	Hazardous Air Pollutants		98.0 %
Storage Tanks (TK-1 and TK-2)	Volatile Organic Compounds	Vapor Recovery Unit (VRU) with VRU back up	98.0 %
	Hazardous Air Pollutants		98.0 %
	CO_2e		98.0 %

2.0. General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NOx**	Nitrogen Oxides
CBI	Confidential Business Information	**NSPS**	New Source Performance Standards
CEM	Continuous Emission Monitor	**PM**	Particulate Matter
CES	Certified Emission Statement	**$PM_{2.5}$**	Particulate Matter less than 2.5 μm in diameter
C.F.R. *or* CFR	Code of Federal Regulations	**PM_{10}**	Particulate Matter less than 10μm in diameter
CO	Carbon Monoxide	**Ppb**	Pounds per Batch
C.S.R. *or* CSR	Codes of State Rules	**Pph**	Pounds per Hour
DAQ	Division of Air Quality	**Ppm**	Parts per Million
DEP	Department of Environmental Protection	**Ppmv or ppmv**	Parts per Million by Volume
dscm	Dry Standard Cubic Meter	**PSD**	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	**Psi**	Pounds per Square Inch
HAP	Hazardous Air Pollutant	**SIC**	Standard Industrial Classification
HON	Hazardous Organic NESHAP	**SIP**	State Implementation Plan
HP	Horsepower	**SO_2**	Sulfur Dioxide
lbs/hr	Pounds per Hour	**TAP**	Toxic Air Pollutant
LDAR	Leak Detection and Repair	**TPY**	Tons per Year
M	Thousand	**TRS**	Total Reduced Sulfur
MACT	Maximum Achievable Control Technology	**TSP**	Total Suspended Particulate
MDHI	Maximum Design Heat Input	**USEPA**	United States Environmental Protection Agency
MM	Million	**UTM**	Universal Transverse Mercator
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour	**VEE**	Visual Emissions Evaluation
MMCF/hr *or* mmcf/hr	Million Cubic Feet per Hour	**VOC**	Volatile Organic Compounds
NA	Not Applicable	**VOL**	Volatile Organic Liquids
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Act W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation*;

2.4. Term and Renewal

2.4.1. This permit supersedes and replaces previously issued Permit R13-3080. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-3080A, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 10.3.]

2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;

2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;

2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. Emergency

2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.

2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. **[45CSR§13-10.1.]**

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1] ***[State Enforceable Only]***

3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]

3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

[Reserved]

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling

connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

    1. The permit or rule evaluated, with the citation number and language;
    2. The result of the test for each permit or rule condition; and,
    3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information

includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. *State Enforceable Only.*]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:
Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

DAQ Compliance and Enforcement[1]:
DEPAirQualityReports@wv.gov

If to the US EPA:
Associate Director
Office of Air Enforcement and Compliance Assistance (3AP20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

[1]For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status Reports, Initial Notifications, etc.

3.5.4. **Operating Fee**

3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually,

shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1 **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit, and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.

4.1.2. **Minor Source of Hazardous Air Pollutants (HAP).** HAP emissions from the facility shall be less than 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs. Compliance with this Section shall ensure that the facility is a minor HAP source.

4.1.3. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]

4.1.4. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

4.1.5. Only those emission units/sources as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized at the permitted facility. In accordance with the information filed in Permit Applications R13-3095, R13-3095A, and R13-3095B, the emission units/sources identified under Table 1.0 of this permit shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants, shall not exceed the listed maximum design capacities, shall use the specified control devices, and comply with any other information provided under Table 1.0.

4.1.6. The permittee shall meet all applicable requirements, including those not specified below, as given under 45CS2, 45CSR6, 40 CFR 60, Subpart JJJJ, and Subpart OOOO, and 40 CFR 63, Subpart HH and Subpart ZZZZ.

4.1.7. The permittee shall meet all applicable Performance Testing Requirements as given under 45CS2, 45CSR6, 40 CFR 60, Subpart JJJJ, and Subpart OOOO, and 40 CFR 63, Subpart HH and Subpart ZZZZ

4.1.8 At such reasonable time(s) as the Secretary may designate, in accordance with the provisions of 3.3 of this permit, the permittee shall conduct or have conducted test(s) to determine compliance with the emission limitations established in this permit and/or applicable regulations.

5.0. Source-Specific Requirements (Engines, COMP-1 through COMP-3 and Catalytic Converters 1C through 3C)

5.1. Limitations and Standards

5.1.1 The compressor engines, identified as COMP-1 through COMP-3, shall meet the following requirements:

a. Each unit shall be a GE Waukesha, 7044 GSI 4SRB 1,680 hp compressor engine and shall only be fired by natural gas;

b. A catalytic converter (1C through 3C) shall be used for emissions control, at all times, on each engine that is in operation;

c. The maximum emissions from each engine, as controlled by the catalytic converter specified under 5.1.1(b), shall not exceed the limits given in the following table:

Table 5.1.1(c): Compressor Engine Emission Limits

Pollutant	lb/hr(1)	tpy
CO	1.15	5.03
NOx	1.23	5.39
$PM_{2.5}/PM_{10}$ (2)	0.27	1.17
VOC	0.28	1.22
Formaldehyde	0.02	0.08

(1) lb/hr emissions based on specific model of engine, engine size, and control technology.
(2) Includes condensables.

d. As the annual emissions are based on 8,760 hours of operation, there is no annual limit on hours of operation or natural gas combusted on an annual basis;

5.1.2 The catalytic converters (1C through 3C) shall be equipped with automatic air/fuel ratio controllers or closed-loop automatic feedback controllers that shall provide a warning or indication to the operator and/or be interlocked with the engine ignition system to cease engine operation in case of a masking, poisoning or overrich air/fuel ratio situation which results in performance degradation or failure of the catalyst element;

5.1.3 No person shall knowingly:

(1) Remove or render inoperative any air pollution or auxiliary air pollution control device installed subject to the requirements of this permit;

(2) Install any part or component when the principal effect of the part or component is to bypass, defeat or render inoperative any air pollution control device or auxiliary air pollution control device installed subject to the requirements of this permit; or

(3) Cause or allow engine exhaust gases to bypass any catalytic reduction device;

5.1.4 The permittee shall regularly inspect, properly maintain and/or replace catalytic reduction devices and auxiliary air pollution control devices to ensure functional and effective operation of the engine's physical and operational design. The permittee shall ensure proper operation, maintenance and performance of catalytic reduction devices and auxiliary air pollution control devices by:

(1) Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller;

(2) Following operating and maintenance recommendations of the catalyst element manufacturer.

5.2. Monitoring Requirements

5.2.1. The permittee shall monitor the temperature to the inlet of the catalyst and in accordance with manufacturer's specifications a high temperature alarm shall shut off the engine before thermal deactivation of the catalyst occurs.

5.2.2. The permittee shall track the compressor run time in hours or number of months in order to determine when the rod packing replacement required in section 5.7 needs to take place.

5.3. Testing Requirements

5.3.1. The permittee shall, pursuant to the timing and other requirements of 40 CFR 60, Subpart JJJJ, conduct, or have conducted, performance testing on the compressor engines to determine the emission rates of CO, NO_x, and VOCs. The testing shall, in addition to meeting all applicable requirements under 40 CFR 60, Subpart JJJJ, be in accordance with 3.3.1. Results of the this performance testing shall be used to determine compliance with the CO, NO_x, and VOC emission limits given under 5.1.1(c) unless a waiver is granted in writing by the Director.

5.4. Recordkeeping Requirements

5.4.1. The permittee shall maintain records of the inlet temperature monitoring of the catalyst and records of high temperature alarms that cause the engine to shut off before thermal deactivation of the catalyst.

5.5. Reporting Requirements

5.5.1 See Facility-Wide Reporting Requirements Section 3.5 and Reporting Requirements of Sections 5.6.

5.6. 40 CFR 60, Subpart JJJJ

Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE.
[40 CFR §60.4233(e)]

The permittee shall comply with all applicable monitoring, compliance demonstration and record-keeping requirements as given under 40 CFR 60, Subpart JJJJ including the following:

If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.
[40 CFR §60.4243(b)]

a. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section.
[40 CFR §60.4243(b)(2)]

(1) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.
[40 CFR §60.4243(b)(2)(ii)]

5.7. 40 CFR 60, Subpart OOOO

You must comply with the standards in paragraphs (a) through (d) of this section for each reciprocating compressor affected facility.

(1) You must replace the reciprocating compressor rod packing according to either paragraph (a)(1) or (2) of this section.

(i) Before the compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning upon initial startup of your reciprocating compressor affected facility, or October 15, 2012, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.
[40 CFR §60.5385(a)(1)]

(ii) Prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced.
[40 CFR §60.5385(a)(2)]

5.8 43 CFR 63, Subpart ZZZZ

An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.
[40 CFR §63.6590(c)]

(1) A new or reconstructed stationary RICE located at an area source;
[40 CFR §63.6590(c)(1)]

6.0. Source-Specific Requirements (Microturbine Generators, GEN1 and GEN2)

6.1. Limitations and Standards

6.1.1. Each unit shall be a Capstone C65 NG Standard 65kWe (output) Microturbine and shall only be fired by natural gas;

6.1.2. The maximum emissions from each Microturbine shall not exceed the limits given in the following table:

Table 6.1.2. Microturbines Emission Limits

Pollutant	lb/hr[1]	tpy
CO	0.08	0.35
NOx	0.03	0.13
CO2	98.80	432.74

(1) PPH emissions based on specific model of Microturbine.

6.1.3 As the annual emissions are based on 8,760 hours of operation, there are no annual limits on hours of operation or natural gas combusted on an annual basis.

6.2. Testing Requirements

6.2.1. At such reasonable time(s) as the Secretary may designate, in accordance with the provisions of 3.3 of this permit, the permittee shall conduct or have conducted test(s) to determine compliance with the emission limitations established in this permit and/or applicable regulations.

7.0. Source-Specific Requirements (Glycol Dehydration Unit, Glycol Dehydration Still Vent, DEHY1, and Glycol Dehydration Flash tank, DFLSH1)

7.1. Limitations and Standards

7.1.1 The maximum dry natural gas throughput to the Exterran Glycol Dehydration Unit shall not exceed 25,550 MMscf/year.

7.1.2 The Glycol Deydration Unit shall meet the following requirements:

a. The maximum emissions from the Glycol Dehydrator Regeneration Still Vent, identified as DEHY1, as emitted after combustion at the flare (4C), shall not exceed the limits given in the following table:

Table 7.1.2(a): Glycol Dehydrator Regeneration Still Vent (DEHY1) Controlled Emission Limits(1)

Pollutant	PPH	TPY
VOC(1)	1.00	4.37
Benzene(1)	*0.05*	*0.21*
Ethylbenzene(1)	*0.04*	*0.16*
Toluene(1)	*0.27*	*1.17*
Xylene(1)	*0.03*	*0.14*
Total HAPs(1)	0.40	1.75

(1) Emissions based on GLYCalc Version 4.0 using dry gas throughputs as limited under 7.1.1.

b. The maximum emissions from the Glycol Dehydrator Flash Tank, identified as DFLSH1, as emitted after combustion in the Reboiler, shall not exceed the limits given in the following table:

Table 7.1.2(b): Glycol Dehydrator Flash Tank (DFLSH1) Controlled Emission Limits(1)

Pollutant	PPH	TPY
VOC(1)	0.96	4.19
Hexane(1)	*0.02*	*0.19*
Total HAPs(1)	0.06	0.25

(1) Emissions based on GLYCalc Version 4.0 using dry gas throughputs as limited under 7.1.1.

7.1.3. Dehydrator still vent shall be controlled by the flare (FLARE1).

7.1.4. Dehydrator flash tank vent gas shall be used in the reboiler or routed to the vapor recovery unit (VRU-100) or it back up (VRU-200).

7.2. Monitoring Requirements

7.2.1. For the purposes of demonstrating compliance with the maximum dry gas throughput limit set forth in 7.1.1., the permittee shall monitor and record the monthly dry gas throughputs and calculate the rolling twelve month total of the dry gas throughput of the Glycol Dehydration Unit.

7.3. Testing Requirements

7.3.1. In order to demonstrate compliance with 7.1.2 (a) and (b), upon request of the Director, the permittee shall demonstrate compliance with the VOC/HAP emissions thresholds using GLYCalc Version 4.0 or higher. The permittee shall sample in accordance with GPA Method 2166 and analyze the samples utilizing the extended GPA Method 2286 as specified in the GRI-GLYCalc V4 Technical Reference User Manual and Handbook.

7.4. Recordkeeping Requirements

7.4.1. The permittee shall maintain records of testing conducted in accordance with section 7.3.

7.4.2. The permittee shall maintain records of dry gas throughput and the calculated rolling twelve month total dry gas throughput, required in section 7.2.1.

7.4.3 All recordkeeping required in section 7.4 shall be in accordance with the recordkeeping requirements of section 3.4.1.

7.5 43 CFR 63, Subpart HH

Exemptions. The owner or operator of an area source is exempt from the requirements of paragraph (d) of this section if the criteria listed in paragraph (e)(1)(i) or (ii) of this section are met, except that the records of the determination of these criteria must be maintained as required in § 63.774(d)(1).
[40 CFR §63.764(e)(1)]

(1) The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in § 63.772(b)(2) of this subpart.
[40 CFR §63.764(e)(1)(ii)]

The permittee shall comply with all applicable monitoring, compliance demonstration and record-keeping requirements as given under 40 CFR 63, Subpart HH including the following:

Determination of glycol dehydration unit flowrate, benzene emissions, or BTEX emissions. The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate, benzene emissions, or BTEX emissions.
[40 CFR §63.772(b)]

a. The determination of actual average benzene or BTEX emissions from a glycol dehydration unit shall be made using the procedures of either paragraph (b)(2)(i) or (ii) of this section. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.
[40 CFR §63.772(b)(2)]

(1) The owner or operator shall determine actual average benzene or BTEX emissions using the model GRI-GLYCalcTM , Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalcTM Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1); or
[40 CFR §63.772(b)(2)(i)]

(2) The owner or operator shall determine an average mass rate of benzene or BTEX emissions in kilograms per hour through direct measurement using the methods in § 63.772(a)(1)(i) or (ii), or an alternative method according to § 63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.
[40 CFR §63.772(b)(2)(ii)]

8.0. Source-Specific Requirements (Dehydration Unit Reboiler, DREB1)

8.1. Limitations and Standards

8.1.1. The maximum design heat input of the reboiler shall not exceed 0.75 MMBtu/hr and the unit shall only be fired by dehydrator flash tank off-gases or natural gas;

8.1.2. The maximum emissions from the reboiler combustion exhaust shall not exceed the limits given in the following table;

Table 8.1.2: Reboiler Emission Limits

Pollutant	lb/hr(1)	TPY
CO	0.07	0.27
NOx	0.08	0.32

(1) lb/hr emissions based on MDHI of Reboiler and emission factors from AP-42, Section 1.4.

8.1.3. As the annual emissions are based on 8,760 hours of operation, there is no annual limit on hours of operation or natural gas combusted on an annual basis.

8.1.4. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.
[40CSR§2-3.1]

8.2. Monitoring Requirements

8.2.1. *Reserved*

8.3. Testing Requirements

8.3.1. At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with Section 8.1.4. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.

8.4. Recordkeeping Requirements

8.4.1. Maintain records of the visible emission opacity tests conducted per Section 8.2.1.

8.4.2 All recordkeeping required in section 8.4 shall be in accordance with the recordkeeping requirements of section 3.4.1.

8.5. Reporting Requirements

8.5.1. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

9.0. Source-Specific Requirements (Dehydration Unit Still Vent Flare, FLARE1)

9.1. Limitations and Standards

9.1.1. The flare shall be non-assisted and the maximum capacity of the flare shall not exceed 2.10 MMBtu/hr;

9.1.2. The flare shall be designed, operated, and maintained according to good engineering practices or manufacturing recommendations so as to achieve, at a minimum, a hydrocarbon combustion rate of 98.0%

9.1.3. The flare shall be operated at all times when emissions may be vented to it.

9.1.4. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

9.1.5. The flare shall be operated with a flame present at all times.

9.1.6. A flare shall be used only where the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or where the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:
HT=Net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K=Constant=

$$1.740\times10^{-7}\left(\frac{1}{ppmv}\right)\left(\frac{g\text{-mole}}{scm}\right)\left(\frac{MJ}{kcal}\right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

Ci=Concentration of sample component i in ppmv on a wet basis, which may be measured for organics by Test Method 18, but is not required to be measured using Method 18 (unless designated by the Director).
Hi=Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 if published values are not available or cannot be calculated.
n=Number of sample components.

9.1.7. Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided by 9.1.8. and 9.1.9. of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), by the unobstructed (free) cross-sectional area of the flare tip, which may be determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60, as appropriate, but is not required to be determined using these Methods (unless designated by the Director).

9.1.8. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in 9.1.7. of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

9.1.9. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in 9.1.7. of this section, less than the velocity Vmax, as determined by the calculation specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, V_{max}, for flares complying with this paragraph shall be determined by the following equation:

$$Log_{10}(V_{max})=(HT+28.8)/31.7$$

Where:
V_{max}=Maximum permitted velocity, m/sec.
28.8=Constant.
31.7=Constant.
HT=The net heating value as determined in 9.1.6. of this section

9.1.10 The permittee is not required to conduct a flare compliance assessment for concentration of sample (i.e. Method 18) and tip velocity (i.e. Method 2) until such time as the Director requests a flare compliance assessment to be conducted in accordance with section 9.3.1., but the permittee is required to conduct a flare design evaluation in accordance with section 9.1.7. Alternatively, the permittee may elect to demonstrate compliance with the flare design criteria requirements of 9.1. by complying with the compliance assessment testing requirements of section 9.3.1.

9.1.11. The permittee shall not cause, suffer, allow or permit particulate matter to be discharged from the flare into the open air in excess of the quantity determined by use of the following formula:

Emissions (lb/hr) = F x Incinerator Capacity (tons/hr)

Where, the factor, F, is as indicated in Table I below:

Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions

Incinerator Capacity	Factor F
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

[45CSR§6-4.1]

9.2. Monitoring Requirements

9.2.1 The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

9.2.2. Conduct monthly Method 22 visible emission observations of the flare to ensure proper operation for a minimum of ten (10) minutes each month the unit is in operation.

9.3. Testing Requirements

9.3.1. The Director may require the permittee to conduct a flare compliance assessment to demonstrate compliance with section 9.1. This compliance assessment testing shall be conducted in accordance with Test Method 18 for organics and Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60, as appropriate, or other equivalent testing approved in writing by the Director. Also, Test Method

18 may require the permittee to conduct Test Method 4 in conjunction with Test Method 18. If a flare design evaluation is required, the permittee shall maintain a record of the net heat value calculations, exit (tip) velocity calculations, and all supporting concentration calculations and other related information requested by the Director.

9.3.2 For the purposes of demonstrating compliance with visible emissions limitations set forth in 9.1.4 the permittee shall:

a. Conduct an initial Method 22 visual emission observation on the flare to determine the compliance with the visible emission provisions. The permittee shall take a minimum of two (2) hours of visual emissions observations on the units.

b. In the event visible emissions are observed in excess of the limitations given under 9.1.4, the permittee shall take immediate corrective action.

9.4. Recordkeeping Requirements

9.4.1. Records of the maintenance performed on the flare shall be kept in accordance with the recordkeeping requirements in section 4.1.3.

9.4.2 The permittee shall maintain records of all startups, shutdowns, and/or malfunctions of the flare. These records shall include the date, time, and duration of each event.

9.4.3 The permittee shall maintain records of the date, time, and duration each time the permittee does not detect the presence of a pilot flame in the flare.

9.4.4. Records of malfunction of the flare shall be kept in accordance with the recordkeeping requirements in section 4.1.4.

9.4.5. The permittee shall maintain records of the visible emission opacity tests conducted per section 9.2.2 and 9.3.2 and records of any testing required by the Director in accordance with section 9.3.1.

9.4.6 All recordkeeping required in section 9.4 shall be in accordance with the recordkeeping requirements of section 3.4.1.

9.5. Reporting Requirements

9.5.1. Any deviation(s) from the flare design and operation criteria in Section 9.1 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of discovery of such deviation.

9.5.2. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

10.0 Source-Specific Requirements (Truck Loadout, LDOUT1)

10.1. Limitations and Standards

10.1.1. The maximum quantity of produced fluids from truck loading (LDOUT1) that shall be loaded shall not exceed 3,249,960 gallons per year. Compliance with the Maximum Yearly Operation Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the throughput at any given time during the previous twelve consecutive calendar months.

10.1.2. All trucks shall be loaded using the submerged-fill method.

10.2. Monitoring Requirements

10.2.1. For the purposes of demonstrating compliance with the truck loadout throughput limit set forth in 10.1.1, the permittee shall monitor the throughput of truck loadout on a monthly basis and calculate the yearly throughput each month as a rolling twelve month total.

10.3 Recordkeeping Requirements

10.3.1. All records required under Section 10.3 shall be kept in accordance with permit condition 3.4.1.

10.3.2. Records shall be kept of the monthly and the rolling twelve month total of the truck loadout throughput.

10.4 Reporting Requirements

10.4.1. See Facility-Wide Reporting Requirements Section 3.5.

11.0 Source-Specific Requirements (Venting Emissions (Compressor Blowdowns, Compressor Startups, Plant Shutdowns), Fugitive Emissions)

11.1. Limitations and Standards

11.1.1. The maximum number of compressor blowdown events per year shall not exceed 936 events, with an estimated 2,429 scf per event. Compliance shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the compressor blowdown events at any given time during the previous twelve consecutive calendar months.

11.1.2 The maximum number of compressor startup events per year shall not exceed 936 events, with an estimated 1,050 scf per event. Compliance shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the compressor startup events at any given time during the previous twelve consecutive calendar months.

11.1.3 The maximum number of plant shutdown events per year shall not exceed 2 events, with an estimated 100,000 scf per event. Compliance shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the plant shut downs at any given time during the previous twelve consecutive calendar months. Unscheduled emergency shutdowns shall not be counted as plant shutdown events.

11.1.4. The Company shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to prevent any substantive fugitive escape of regulated air pollutants. Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for substantive fugitive emissions of regulated air pollutants shall be replaced.

11.2 Recordkeeping Requirements

11.2.1 All records required under section 11.2 of this permit shall be shall be kept in accordance with permit condition 3.4.1.

11.2.2. To demonstrate compliance with permit condition 11.1.1 of this permit, the permittee shall maintain a record of the compressor blowdown events on a monthly and rolling twelve month total.

11.2.3. To demonstrate compliance with permit condition 11.1.2 of this permit, the permittee shall maintain a record of the compressor startup events on a monthly and rolling twelve month total.

12.0 Source-Specific Requirements (Tanks, TK-1 and TK-2)

12.1. Limitations and Standards

12.1.1 Use of storage tanks, identified as TK-1 and TK-2, shall be in accordance with the following:

a. Tank size and material stored shall be limited as specified under Table 1.0 of this permit.

12.1.2 The permittee shall route all VOC emissions (working/breathing/flashing) generated in the storage tanks to the vapor recovery unit (VRU-100) or to the back-up vapor recovery unit (VRU-200).

12.1.3. VOC emissions (working/breathing/flashing) generated in the storage tanks, as emitted after vapor recovery unit, shall not exceed 11.36 TPY.

12.1.4 *Operation and Maintenance of Air Pollution Control Equipment.* The permittee shall, to the extent practicable, install, maintain, and operate the vapor recovery unit (VRU-100) with vapor recovery backup unit (VRU-200) and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary. **[45CSR§13-5.11.]**

12.2 Monitoring Requirements

12.2.1 The permittee shall monitor the throughput to the storage tanks (TK-1 and TK-2) on a monthly basis.

12.2.2 To demonstrate compliance with permit condition 12.1.1, the permittee shall monitor the vapor recovery unit in accordance with the plans and specifications and manufacturer's recommendations.

12.3 Recordkeeping Requirements

12.3.1 All records required under Section 12.3 shall be kept in accordance with permit condition 3.4.1.

12.3.2 *Record of Maintenance of VRUs.* The permittee shall maintain accurate records of the vapor recovery unit equipment inspection and/or preventative maintenance procedures.

12.3.3. *Record of Malfunctions of VRU.* The permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the vapor recovery unit during which excess emissions occur. For each malfunction, the permittee shall record the information as required in in condition 4.1.4.

12.3.4. To demonstrate compliance with permit condition 12.1.3, the permittee shall maintain a record of the aggregate throughput for the storage tanks on a monthly and rolling twelve month total.

12.3.5. The permittee shall maintain a copy all design records of the process, maintenance records of equipment and any downtime hours associated with the vapor recovery units.

i. The initial compliance requirements;

ii. Each annual visual inspection conducted to demonstrate continuous compliance, including records of any repairs that were made as results of the inspection;

iii. Bypass requirements.

a. Each occurrence that the control device was bypassed. If the device was bypassed, the records shall include the date, time, and duration of the event and shall provide the reason the event occurred. The record shall also include the estimate of emissions that were released to the environment as a result of the bypass.

iv. Any part of the system that has been designated as "unsafe to inspect" or "difficult to inspect". **[45CSR§13-5.11]**

13.0 Source-Specific Requirements (Fuel Conditioner, FUEL1)

13.1 Limitations and Standards

13.1.1 The maximum design heat input of the fuel conditioner shall not exceed 0.5 MMBtu/hr and the unit shall only be fired by natural gas;

13.1.2. The maximum emissions from the fuel conditioner combustion exhaust shall not exceed the limits given in the following table;

Table 13.1.2: Fuel Conditioner Emission Limits

Pollutant	lb/hr(1)	TPY
CO	0.04	0.18
NOx	0.05	0.21

(2) lb/hr emissions based on emission factors from AP-42, Section 1.4.

13.1.3. As the annual emissions are based on 8,760 hours of operation, there is no annual limit on hours of operation or natural gas combusted on an annual basis.

13.1.4. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.
[40CSR§2-3.1]

13.2. Monitoring Requirements

13.2.1. *Reserved*

13.3. Testing Requirements

13.3.1. At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with Section 8.1.4. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.

13.4. Recordkeeping Requirements

13.4.1. Maintain records of the visible emission opacity tests conducted per Section 13.2.1.

13.4.2 All recordkeeping required in section 13.4 shall be in accordance with the recordkeeping requirements of section 3.4.1.

13.5. Reporting Requirements

13.5.1. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature[1] (please use blue ink) _____ Responsible Official or Authorized Representative _____ Date

Name & Title (please print or type) _____ Name _____ Title

Telephone No. _____ Fax No. _____

---

[1] This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

(ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.

Carney, Jonathan W

From: Carney, Jonathan W
Sent: Tuesday, February 14, 2017 3:20 PM
To: 'Elizabeth McLaughlin'
Subject: RE: Antero Midstream- Pennington CS Pre-Draft Comments

Betsy,

Following each of your comments below are the DEP's response:

1. In Table 1.1, Antero requests that the Flash Tank (DFLSH1) be removed as it is not controlled by the flare.
   Flash Tank (DFLSH1) has been removed from Table 1.1 of the the draft permit.

2. In Section 7.1.1 and 7.2.1, Antero requests that "wet natural gas throughput" be changed to "dry natural gas throughput". GlyCalc modeling was run using a dry natural gas throughput and therefore all emissions were calculated using this throughput. The request in Attachment O for monitoring of wet natural gas throughput was a typo.
   Wet was changed to dry natural gas throughput in Section 7.1.1 and 7.2.1 as well as 7.4.2 and in the footnotes to the tables in section 7. Table numbers were changed to correspond to the sections they are located in.

3. In Table 4.1.5(b), Antero requests that the Hexane emissions be changed to 0.02 lb/hr and 0.19 TPY to match up with the permit application.
   The application shows n-Hexane for the flash tank to be 0.043 lb/hr and 0.19 tpy. DEP accepts your revisions that 0.02 lb/hr and 0.19 tpy of hexane are to be the emission limits that should be in the permit based on your comment.

4. In Section 7.2.1, Antero requests that the daily monitoring of throughput be removed. In all other permits, compliance is demonstrated based on monthly and twelve month rolling totals only.
   The daily gas throughput limit in 7.1.1 and 7.2.1 daily monitoring were removed.

5. Antero requests that Section 7.3.2 be removed. This condition is not listed in any of Antero's other permits, and for consistency we are requesting it's removal.
   Section 7.3.2 has been removed.

6. Antero requests the removal of conditions 8.2.1 and 8.31. Method 22's are not conducted on heaters. Some of our other permits have the following language associated with monitoring heaters: *"At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with Section --. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A."*
   For consistency, 8.2.1 has been replaced with "Reserved" and 8.3.1 was revised with the wording provided in this comment.

7. Antero Requests that in the heading of Section 9.0, Dehydration Unit Flash Tank Flare be changed to Dehydration Unit Still Vent. The Flash Tank is controlled by the reboiler, and the still vent is controlled by the flare.
   Changed to Dehydration Unit Still Vent Flare, FLARE1.

8. Antero requests that Section 9.3.2(b) be removed for consistency with all other issued permits. All of Antero's current issued permits only require an initial Method 22.

Section 9.3.2(b) requiring a monthly Method 22 observation of the flare for 10 minutes has been removed and part c. re-labeled b.

9. Antero requests the removal of section 11.1.4. I t is common and acceptable practice to estimate component counts based on engineering designs of similar facilities. Furthermore, this condition is inconsistent with other currently issued Antero permits.
   The following section has been removed from the permit.
   11.1.4 The permittee shall not exceed the number and type of components (valves, pump seals, connectors, etc.) in gas/vapor or light liquid (as applicable) listed in Attachment N of Permit Application R13-3080A.

10. Antero requests that sections 11.2.2 and 11.2.3 require the recording of even counts only. The volumes permitted are estimates and they are the same for each event.
    The requirement to estimate emissions in these sections has been removed.

11. Antero requests that Section 11.2.4 be removed. This condition is not consistent with other permits issued to Antero.
    Section 11.2.4 has been removed.

12. Antero requests the removal of condition 13.2.1 and 13.3.1. Method 22's are not conducted on heaters. Some of our other permits have the following language associated with monitoring heaters: *"At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with Section --. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A."*
    For consistency, 13.2.1 has been replaced with "Reserved" and 8.3.1 was revised with the wording provided in this comment.

Thank you for your comments.

Jonathan Carney

Jonathan Carney, P.E.
Environmental Protection
NSR Air Permitting

(304) 926-0499 ext. 1203
Jonathan.W.Carney@wv.gov
601 57th St SE
Charleston, WV 25304

From: Elizabeth McLaughlin [mailto:emclaughlin@anteroresources.com]
Sent: Friday, February 10, 2017 1:36 PM
To: Carney, Jonathan W <Jonathan.W.Carney@wv.gov>
Subject: Antero Midstream- Pennington CS Pre-Draft Comments

Jon,

Antero Midstream (Antero) would like to submit the following comments on the draft permit for the Pennington Compressor Station:

1. In Table 1.1, Antero requests that the Flash Tank (DFLSH1) be removed as it is not controlled by the flare.
2. In Section 7.1.1 and 7.2.1, Antero requests that "wet natural gas throughput" be changed to "dry natural gas throughput". GlyCalc modeling was run using a dry natural gas throughput and therefore all emissions were calculated using this throughput. The request in Attachment O for monitoring of wet natural gas throughput was a typo.
3. In Table 4.1.5(b), Antero requests that the Hexane emissions be changed to 0.02 lb/hr and 0.19 TPY to match up with the permit application.
4. In Section 7.2.1, Antero requests that the daily monitoring of throughput be removed. In all other permits, compliance is demonstrated based on monthly and twelve month rolling totals only.
5. Antero requests that Section 7.3.2 be removed. This condition is not listed in any of Antero's other permits, and for consistency we are requesting it's removal.
6. Antero requests the removal of conditions 8.2.1 and 8.31. Method 22's are not conducted on heaters. Some of our other permits have the following language associated with monitoring heaters: *"At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with Section --. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A."*
7. Antero Requests that in the heading of Section 9.0, Dehydration Unit Flash Tank Flare be changed to Dehydration Unit Still Vent. The Flash Tank is controlled by the reboiler, and the still vent is controlled by the flare.
8. Antero requests that Section 9.3.2(b) be removed for consistency with all other issued permits. All of Antero's current issued permits only require an initial Method 22.
9. Antero requests the removal of section 11.1.4. I t is common and acceptable practice to estimate component counts based on engineering designs of similar facilities. Furthermore, this condition is inconsistent with other currently issued Antero permits.
10. Antero requests that sections 11.2.2 and 11.2.3 require the recording of even counts only. The volumes permitted are estimates and they are the same for each event.
11. Antero requests that Section 11.2.4 be removed. This condition is not consistent with other permits issued to Antero.
12. Antero requests the removal of condition 13.2.1 and 13.3.1. Method 22's are not conducted on heaters. Some of our other permits have the following language associated with monitoring heaters: *"At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with Section --. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A."*

Please let me know if you have any questions and feel free to give me a call if you would like to discuss any of these comments in detail. We appreciate the opportunity to review the draft prior to issuance for public comment.

Thanks,

Betsy McLaughlin
Air Quality Specialist

Antero

1615 Wynkoop Street
Denver, CO 80202
O: 303.357.6839
C: 303.396.9465

Carney, Jonathan W

From: Carney, Jonathan W
Sent: Tuesday, December 13, 2016 2:36 PM
To: 'wmcneilly@anteroresources.com'
Cc: McKeone, Beverly D; 'bschatz@anteroresources.com'; 'msteyskal@kleinfelder.com'
Subject: WV DAQ NSR Permit Application Complete for Antero Resources Corporation - Pennington

RE: Application Status: Complete
Antero Resources Corporation
Pennington
Permit Application (R13-3080A)
Plant ID No. 017-00056

Mr. McNeilly,

Your application for a modification permit for a Natural Gas Compressor Station was received by this Division on November 9, 2016 and assigned to the writer for review. Upon review of said application, it has been determined that the application is complete and, therefore, the statutory review period commenced on December 8, 2016.

In the case of this application, the agency believes it will take approximately 90 days to make a final permit determination.

This determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit determination.

Should you have any questions, please contact Jonathan Carney at (304) 926-0499 ext. 1203 or reply to this email.

Jonathan Carney, P.E.
Environmental Protection
NSR Air Permitting

(304) 926-0499 ext. 1203
Jonathan.W.Carney@wv.gov
601 57th St SE
Charleston, WV 25304

Permit / Application Information Sheet
Division of Environmental Protection
West Virginia Office of Air Quality

Company:	ANTERO RESOURCES CORPORATION			**Facility:**	PENNINGTON
Region:	8	**Plant ID:**	017-00056	**Application #:**	13-3080A
Engineer:	Carney, Jonathan			**Category:**	
Physical Address:	County Route 50/24 Near Smithburg WV 26436			SIC: [4923] ELECTRIC, GAS AND SANITARY SERVICES - GAS TRANSMISSION AND DISTRIBUTION NAICS: [221210] Natural Gas Distribution	
County:	Doddridge				
Other Parties:	Consultant - Steyskal, Michele 719-632-3593 ENV_MGR - Schatz, Barry 303-357-7276 VICE PRES - McNeilly, Ward 303-357-6822				

Information Needed for Database and AIRS
1. Need valid physical West Virginia address with zip

Regulated Pollutants

Summary from this Permit 13-3080A

Air Programs		Applicable Regulations
Fee Program	**Fee**	**Application Type**
	$4,500.00	MODIFICATION

Notes from Database

Activity Dates

APPLICATION RECIEVED	11/09/2016
APPLICATION FEE PAID	11/14/2016
ASSIGNED DATE	11/14/2016

NON-CONFIDENTIAL

Please note, this information sheet is not a substitute for file research and is limited to data entered into the AIRTRAX database.

Company ID: 017-00056
Company: ANTERO RESOURCES CORPORATION
Printed: 11/14/2016
Engineer: Carney, Jonathan

Adkins, Sandra K

From:	Adkins, Sandra K
Sent:	Monday, November 14, 2016 11:13 AM
To:	'wmcneilly@anteroresources.com'; 'bschatz@anteroresources.com'; 'msteyskal@kleinfelder.com'
Cc:	McKeone, Beverly D; Carney, Jonathan W
Subject:	WV DAQ Permit Application Status for Antero Resources Corporation; Pennington

RE: Application Status
Antero Resources Corporation
Pennington
Facility ID No. 017-00056
Application No. R13-3080A

Mr. McNeilly,

Your application for a modification permit for the Pennington Compressor Station was received by this Division on November 9, 2016, and was assigned to Jonathan Carney. The following item was not included in the initial application submittal:

Original affidavit for Class I legal advertisement not submitted.

This item is necessary for the assigned permit writer to continue the 30-day completeness review.

Within 30 days, you should receive a letter from Jonathan stating the status of the permit application and, if complete, given an estimated time frame for the agency's final action on the permit.

Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Should you have any questions, please contact the assigned engineer, Jonathan Carney, at 304-926-0499, extension 1203.

R13-3080A modification
017-00056 Jonathan

45CSR13 Administrative Update, Construction, Modification, Relocation, Temporary Permit or General Permit Registration Incomplete Application

A complete application is demonstrated when all of the information required below is properly prepared, completed and attached. The items listed below are required information which must be submitted with a 45CSR13 permit application. Any submittal will be considered incomplete if the required information is not included. The applicant must submit a complete application in order to receive a 45CSR13 permit.

☒ Class I legal advertisement not published in a newspaper certified to accept legal advertisements and original affidavit submitted.

☐ Application fee AND/OR additional application fees not included:
- ☐ $250 Class I General Permit
- ☐ $300 Class II Administrative Update
- ☐ $1,000 Construction, Modification, Relocation or Temporary Permit
- ☐ $500 Class II General Permit
- ☐ $1,000 NSPS
- ☐ $2,500 NESHAP
- ☐ $2,500 45CSR27 Pollutant
- ☐ $5,000 Major Modification
- ☐ $10,000 Major Construction

☐ Original and two (2) copies of the application not submitted.

☐ File organization – application pages are not numbered or in correct order, application is not bound in some way, etc.

☐ Confidential Business Information is not properly identified.

☐ General application forms not completed and signed by a responsible official.

☐ Authority of Corporation form not included – required if application is signed by someone other than a responsible official.

☐ Applicant is not registered with the West Virginia Secretary of State's Office.

☐ Copy of current Business Registration Certificate not included.

☐ Process description, including equipment and emission point identification numbers, not submitted.

☐ Process flow diagram, including equipment and emission point identification numbers, not submitted.

☐ Plot plan, including equipment and emission point identification numbers, not submitted.

☐ Applicable technical forms not completed and submitted:

- ☐ Emission Point Data Summary Sheets
- ☐ Air Pollution Control Device Sheets
- ☐ Emission Unit Data Sheets
- ☐ Equipment List Form

☐ Emission calculations not included – emission factors, references, source identification numbers, etc.

☐ Electronic submittal diskette not included.

November 15, 2016

Antero Resources
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

Mr. Jon Carney
Division of Air Quality
WV Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

Dear Mr. Carney:

Re: Original Affidavit of Publication
Pennington Compressor Station – Permit No. R13-3080A

Antero Midstream would like to submit the Original Affidavit of Publication from *The Doddridge Independent*. This is being submitted in accordance with a permit application requirement for an oil and gas compressor station.

Sincerely,

Luz Slauter
Midstream Environmental & Regulatory Manager

Encl.

The Doddridge Independent

The Doddridge Independent
PUBLISHER'S CERTIFICATE

I, Michael D. Zorn, Publisher of The Doddridge Independent, A newspaper of general circulation published in the town of West Union, Doddridge County, West Virginia, do hereby certify that:

Air Quality Permit Notice

Notice of Application – Pennington Compressor Station

Notice is given that Antero Midstream LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a modification to the existing 45CSR13 Construction Permit R13-3080 for a Natural Gas Compressor Station located north of US-50 near Smithburg in Doddridge County, West Virginia. The latitude and longitude coordinates are: 39.28903N, 80.67588W.

was published in The Doddridge Independent
1 times commencing on Friday, November 11, 2016 and
Ending on Friday, November 11, 2016 at the request of:

Antero Resources Corporation
Barry Schatz, Sr. Env. & Reg. Mgr

Given under my hand this Saturday, November 12, 2016

The publisher's fee for said publication is:
$ 39.71 1st Run/$ 0 Subsequent Runs
This Legal Ad Total: $ 39.71

Michael D. Zorn
Publisher of The Doddridge Independent

Subscribed to and sworn to before me on
this date: 11/12/16

Notary Public in and for Doddridge County

My Commission expires on
The 17th day of May 2019

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
PAMELA R. STINESPRING
P. O. BOX 81
WEST UNION, WV 26456
My Commission expires May 17, 2019

LEGAL ADVERTISEMENT

Attachment J

Air Quality Permit Notice

Notice of Application – Pennington Compressor Station

Notice is given that Antero Midstream LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a modification to the existing 45CSR13 Construction Permit R13-3080 for a Natural Gas Compressor Station located north of US-50 near Smithburg in Doddridge County, West Virginia. The latitude and longitude coordinates are: 39.28903N, 80.67588W.

The applicant estimates the change in the potential to discharge of the following Regulated Air Pollutants will be:

Regulated Air Pollutant	Modified Potential Emissions (tons/yr)
Nitrogen Oxides (NOx)	9.24
Carbon Monoxide (CO)	1.06
Volatile Organic Compounds (VOC)	-5.36
Particulate Matter less than 10 µm (PM10)	0.49
Particulate Matter less than 2.5 µm (PM2.5)	-0.20
Sulfur Dioxide (SO2)	-0.01
Formaldehyde (HCHO)	-0.23
Total HAPs	0.92
Greenhouse Gases (CO2e)	1451

Please note that negative numbers in the table indicate a decrease in potential to emit.

Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated the 4th day of November 2016.

By: Antero Resources Corporation
Barry Schatz
Senior Environmental & Regulatory Manager
1615 Wynkoop Street
Denver, CO 80202

11/11

Carney, Jonathan W

From: Ward, Beth A
Sent: Monday, November 14, 2016 2:09 PM
To: Carney, Jonathan W
Subject: ANTERO RESOURCES CORPORATION PERMIT APPLICAION FEE

This is the receipt for payment received from:

ANTERO RESOURCES CORPORATION, PENNINGTON, CHECK NUMBER 1502, CHECK DATE 09/13/2016, $4,500.00
R13-3080A ID# 017-00056

OASIS CR 1700053009

THANK YOU!

Beth Ward
WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
BTO FISCAL
601 57TH STREET SE
CHARLESTON, WV 25304
(304) 926-0499 EXT 1846
beth.a.ward@wv.gov

Carney, Jonathan W

From:	Adkins, Sandra K
Sent:	Monday, November 14, 2016 11:13 AM
To:	wmcneilly@anteroresources.com; bschatz@anteroresources.com; msteyskal@kleinfelder.com
Cc:	McKeone, Beverly D; Carney, Jonathan W
Subject:	WV DAQ Permit Application Status for Antero Resources Corporation; Pennington

RE: Application Status
Antero Resources Corporation
Pennington
Facility ID No. 017-00056
Application No. R13-3080A

Mr. McNeilly,

Your application for a modification permit for the Pennington Compressor Station was received by this Division on November 9, 2016, and was assigned to Jonathan Carney. The following item was not included in the initial application submittal:

Original affidavit for Class I legal advertisement not submitted.

This item is necessary for the assigned permit writer to continue the 30-day completeness review.

Within 30 days, you should receive a letter from Jonathan stating the status of the permit application and, if complete, given an estimated time frame for the agency's final action on the permit.

Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Should you have any questions, please contact the assigned engineer, Jonathan Carney, at 304-926-0499, extension 1203.